

Review of *Vrilletta*, With Two New Species and a Key (Coleoptera: Anobiidae)

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ABSTRACT

Two new species of *Vrilletta* are described from California: *bicolor* and *pectinicornis*. Notes are given for distinguishing these from closely related species, illustrations are included, and a key to the 10 North American species of *Vrilletta* is presented. Two species names are of uncertain status, and their probable status is discussed.

Recently I have tried to assign all names for species of *Vrilletta* and thereby settle the disposition of apparently undescribed species held from collections sent to me. Descriptions by Maurice Pic of two North American species that evidently belong in *Vrilletta* have complicated my work.

In March of 1977 I visited the Museum National d'Histoire Naturelle in Paris to study the Pic types of American Anobiidae species. Unfortunately, some of the types had been loaned 13 years previously and were never returned. Two that I did not see were of *Vrilletta fulvolineata* (Pic) and *V. nigra* Pic, so I cannot now assign these names with certainty. However, rather than abandon my work because of this problem, it would better serve advancement of our knowledge to present my data and provisionally assign Pic's names.

Following is a diagnosis of the genus *Vrilletta*: antennal segments 4 through 8 strongly serrate to pectinate, length of last 3 segments combined almost as great as to greater than that of all preceding segments. Elytral striae distinct throughout, usually finely, strongly impressed, but sometimes punctate; intervals convex. Outer face of front and middle tibiae concave. Body length 3.5–8.4 mm.

Vrilletta bicolor, new species

Figs. 4, 5, 6, 8

General.—Body elongate-robust, 2.3 times as long as wide; elytral sides subparallel in basal 3/5. Elytra orange brown, suture and often lateral margins narrowly dark brown to black; scutellum black; pronotum mostly orange or red brown, at base brown to nearly black; head and ventral surface black, antenna dark brown to black; femora mostly dark brown, remainder of legs mostly red-brown. Pubescence very short, fine, not obscuring surface, dull white.

Head.—Front weakly, longitudinally carinate at middle, nearly evenly convex side to side, weakly convex front to back; surface minutely punctate-granulate. Eyes small, separated by about 5 times frontal width of an eye, not varying in sexes. Antenna of male (Fig. 4) nearly 1/2 as long as body, that of female (Fig. 5) nearly 1/3 as long as body; 2nd antennal segment of male a little wider than long, 3rd segment about 1.5 times as wide as long, segments 4–8 each 3 to 4 times as wide as long, ramus of 9th segment 2 times as long as segment, ramus of 10th segment nearly 2 times as long as segment, 11th segment arcuate and about 7 times as long as wide. Last segment of maxillary palpus subtriangular, about 2 times as long as wide, widest before middle; last segment of labial palpus subtriangular, about 2 times as long as wide, widest at middle.

Dorsal surface.—Pronotal disk and sides nearly evenly convex, but at extreme side shallowly concave; lateral margin produced, complete, and explanate, most produced at hind angle; surface throughout minutely granulate and obscurely punctate. Scutellum width about equal to length, apex broadly rounded. Elytra with distinct, complete, impressed striae, most striae with distinct punctures; surface throughout with minute, dense punctures, usually transversely aligned, causing a finely rugose appearance; intervals moderately convex, more distinctly convex apically; elytral apex truncate.

Ventral surface.—Outer face of anterior tibia concave nearly throughout; outer face of middle tibia concave apically; outer face of hind tibia weakly flattened. Metasternal surface finely, densely punctate and granulate, granules most distinct near base. Abdominal surface finely, densely punctate.

Length.—7.2–7.7 mm.

The male holotype (in CASC) bears the data: Fairfax, Marin Co., California, 4/24/49; D. Giuliani Collector; Derham Giuliani Collection, Calif. Acad. Sci., Accession 1967. One female paratype (in CASC) bears essentially the same data except for the date 4/15/50. Two female paratypes (in USNM) bear the data—11074a' Hopk. US; Apr. 24/15, Reared; Harvey BT Colr; Ashland, Oregon; *Alnus rhombifolia*.

The species name refers to the body color: the ventral surface and head are black and the dorsal surface is mostly orange or red-brown. Typically, species of *Vrilletta* exhibit much variation in color, but these 4 specimens are almost identical to one another in this regard.

Vrilletta bicolor is most similar to *V. convexa* LeConte, but they differ in characters of color, antennae, and male genitalia. No members of *convexa* match the color of *bicolor* (see above). The color of *convexa* varies from black throughout to black or dark brown nearly throughout and with elytra orange-brown except for darkened margins, to brown or red-brown nearly throughout. Antennal segments 9 and 10 of both sexes of *bicolor* (Figs. 4, 5) are more strongly serrate than these segments of *convexa* (Figs. 2, 3). The male genitalia of *bicolor* (Fig. 8) has the palp-like object of a lateral lobe widest near the base, while that of *convexa* (Fig. 9) has the palp-like object of a lateral lobe widest apically. Finally, there are differences in the shapes of the median lobes and their internal processes. In *bicolor*, the median lobe is narrower than in *convexa*, and the internal processes are much stouter than those of *convexa*.

Vrilletta pectinicornis, new species

Fig. 1

General.—Body elongate-robust, 2.3–2.4 times as

long as wide, elytral sides subparallel in basal 3/5. Body and appendages mostly black, following parts brownish: apex of last antennal segment, apex of tibiae, tarsi. Pubescence fine, short, appressed, not obscuring surface, dull white.

Head.—Front nearly evenly convex side to side, weakly convex front to back; surface finely punctate-granulate. Eyes small, separated by 4.5 times frontal width of an eye. Antenna of female (Fig. 1) about 1/3 as long as body, 2nd segment a little wider than long, 3rd segment as wide as long, 4th segment a little wider than long, 5th segment about 1.5 times as wide as long, segment 6 and 7 each a little over 2 times as wide as long, segment 8 nearly 4 times as wide as long, 9th segment nearly 3 times as wide as long, 10th segment over 2 times as wide as long, 11th segment about 4 times as long as wide, weakly arcuate, widest before apex. Last segment of maxillary palpus subtriangular, widest before middle, 2 times as long as wide; last segment of labial palpus subtriangular, widest at middle, 2 times as long as wide.

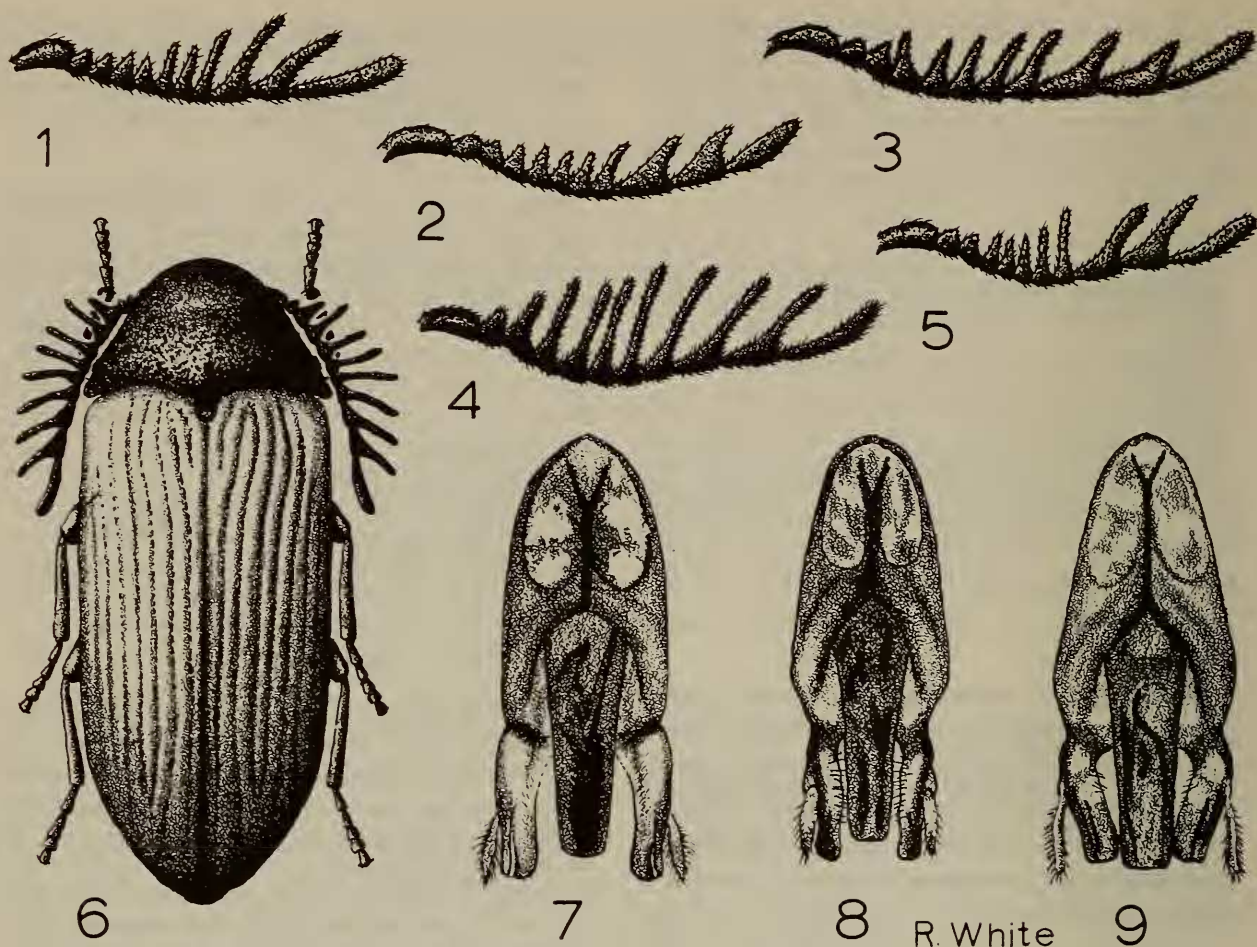
Dorsal surface.—Pronotal disk unevenly convex, sides nearly evenly convex, but shallowly depressed above anterior angle; lateral margin produced, complete, explanate, most produced at hind angle; disk finely punctate-granulate, surface at side with obscurely dual granulation. Scrutellum about as wide as long, apex broadly rounded. Elytra with more or less distinct, impressed striae, generally vague on disk, striae at sides with weak punctures; intervals convex; surface minutely, transversely rugose; apex narrowly truncate.

Ventral surface.—Outer face of anterior tibia concave nearly throughout, outer face of middle tibia concave apically, outer face of hind tibia weakly flattened. Metasternal surface finely, densely punctate, punctures dual, small punctures denser than larger, rimmed punctures. Abdominal surface sculpture of fine, dense punctures.

Length.—7.7–8.0 mm.

The female holotype (USNM No. 76536) bears the data: Glenwood Rd., Santa Cruz Co., California, 12-III-1966, reared from tanbark oak, W. H. Tyson, Collector. The single paratype (also a female in USNM) bears the data: Ben Lomond, 4.10.1930, L. W. Saylor Collector. This is a California locality.

Vrilletta pectinicornis (the name refers to the antenna) differs from the other two species of *Vrilletta* with pectinate or subpectinate antennae (i.e., *bicolor* White and *convexa* LeConte) in that each ramus of segments 9 and 10 is 2–3 times as long as its segment, whereas in *bicolor* and *convexa* a



Figs. 1-5, *Vrilletta* antennae: 1, *V. pectinicornis*, female; 2, *V. convexa*, female; 3, *V. convexa*, male; 4, *V. bicolor*, male; 5, *V. bicolor*, female; 6, *V. bicolor*, male holotype. Figs. 7-9, male genitalia: 7, *V. decorata*; 8, *V. bicolor*; 9, *V. convexa*.

ramus is never more than 2 times as long as its segment, usually much less. Typically in species of *Vrilletta*, the serration or pectination of an antenna is more developed in the male than in the female. If that is also the case in this species, then the male antenna of *pectinicornis* will be even more developed than is the male antenna of *bicolor*.

Pic species of *Vrilletta*

I have tried to assign the names *Vrilletta fulvolineata* (Pic), 1903 and *V. nigra* Pic, 1905. Due to the brevity and superficiality of most of Pic's descriptions, they usually provide little useful data for assigning names. However, meaningful characters in these two descriptions allow some conclusions to be drawn.

The length of *V. nigra* (7 mm) and reference to convex elytral intervals make it likely that Pic did have a species of *Vrilletta* before him. He described the antenna as

greatly pectinate starting from the 3rd segment. This narrows the possibilities among known species of *Vrilletta* to only *convexa* LeConte, *pectinicornis* White, and *bicolor* White. The color given for *nigra*—black with tibiae and tarsi reddish—immediately excludes *bicolor*. The distributions of *convexa* and *pectinicornis* place them near the locality of Mariposa, California, which is given for *nigra*. The antennal form described for *nigra* does not agree with the female antenna of *convexa* nor the female (and only specimen) of *pectinicornis*; however, it does agree with the male antenna of *convexa*, and it is possible that it also conforms with the male antenna of *pectinicornis*. A single male of the color-variable *convexa* in the USNM series of 12 specimens agrees with the color given for *nigra*. Also, the color of *nigra* agrees well with that of the female of *pectinicornis*. Pic, in his description for *nigra*, compared his species with

convexa and presented a character that he believed separated them ("Voisin de *V. convexa* Lec., distinct de cette espèce (2) par la structure des antennes, notamment par la forme triangulaire du 2^e article"). I doubt that there is any value to this character, but, of course, it is possible that the two are actually distinct. For the present I will regard *nigra* as possibly synonymic with either *convexa* or *pectinicornis*.

The Pic description of *fulvolineata* allows probable assignment (see below) of this name to the same species that VanDyke described (1918) as *V. decorata*. If *decorata* is synonymized with *fulvolineata*, that change should come only after examination of Pic's type so his name can be assigned with certainty.

The length given for *fulvolineata* (7 mm) is a little large for *decorata*; the 72 specimens in the USNM series of *decorata* range in length from 5.2–6.9 mm. The meaningful

color characters for *fulvolineata* presented by Pic follow: he described the underside of the body as black, the upper part as dark in the middle of the prothorax and on the elytra, the periphery of these parts as reddish, and the legs and antennae as obscurely reddish. Pic also stated that each elytron had basally 3 light longitudinal lines, the first being the longest. Certain individuals of the highly color variable *decorata* agree well with these characters, and comparison of the other species of *Vrilletta* with the characters shows that none of these does agree. As is mentioned by VanDyke, 1918, p. 8, *decorata* is the most common species of the genus. The meaning of the locality data given by Pic for his *fulvolineata* "l'Amerique Sle" is obscure. However, in his catalog of Anobiidae (Pic, 1912, p. 46), he gave the locality as "U.S. America". I have illustrated the male genitalia of *decorata* (Fig. 7).

Key to species of *Vrilletta*

1. Antenna with segments 9 and 10 strongly, acutely produced in both sexes (Figs. 1–6) 2
- Antenna with segments 9 and 10 not strongly produced 4
- 2(1). Female with ramus of 9th antennal segment 3 times as long as segment, ramus of 10th segment over 2 times as long as segment (Fig. 1); body black nearly throughout *pectinicornis*, n. sp.
- Antennal rami not as elongated as above; body usually with orange-brown or red-brown 3
- 3(2). Antenna more strongly pectinate (Figs. 4, 5, 6); dorsal surface orange-brown to red-brown with base of pronotum dark and elytral margins usually black; ventral surface and head black to dark brown *bicolor*, n. sp.
- Antenna less strongly pectinate (Figs. 2, 3); color never exactly as above *convexa* LeConte
- 4(1). Pubescence dense, whitish, largely concealing surface, somewhat reflective, changing in direction *californica* Fisher
- Pubescence never exactly as above, always less dense 5
- 5(4). Occurring in Pennsylvania, Quebec, and Ontario *laurentina* Fall
- Occurring on Pacific coast 6
- 6(5). Basal 2/3 of pronotum orange to orange brown and apex more or less distinctly darker; elytra clearly darker than base of pronotum, elytron usually with an orange spot before middle *murrayi* LeConte
- Pronotal and elytral color never exactly as above 7
- 7(6). Elytra bicolored, primarily dark but with orange to orange-brown spots or stripes 8
- Elytra not bicolored, of same color throughout, or primarily light 9
- 8(7). Elytron before middle with orange markings less extensive, only on interval 7, sometimes also on 6, or 5 and 6 *blaisdelli* Fall
- Elytral markings much more extensive than above *decorata* VanDyke
- 9(7). Pronotum with dense, dual punctation (large, rimmed punctures and small dot-like punctures) and fine granules; dorsal surface with feeble luster; discal intervals not or feebly convex *plumbea* Fall

Pronotum granulate and with fine punctation, with few to no large punctures; dorsal surface with moderate luster; discal intervals more or less clearly convex
..... *expansa* LeConte

Checklist of species of *Vrilletta*

- Vrilletta* LeConte, 1874, p. 64
- Pseudoxyletinus* Pic, 1903, p. 182.
 - bicolor* White
 - blaisdelli* Fall, 1905, p. 194
 - californica* Fisher, 1939, p. 175
 - convexa* LeConte, 1874, p. 65
 - decorata* VanDyke, 1918, p. 7
 - expansa* LeConte, 1874, p. 64
 - laurentina* Fall, 1905, p. 195
 - murrayi* LeConte, 1874, p. 64
 - pectinicornis* White
 - plumbea* Fall, 1905, p. 196

Uncertain status

- fulvolineata* (Pic), 1903,
p. 182 (probably *decorata*)
- nigra* Pic, 1905, p. 171 (possibly
convexa or *pectinicornis*)

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donation of a specimen. The initials USNM refer to the United States National Museum of Natural History, Washington, D.C.

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Studies of Neotropical Caddisflies, XXIX: The Genus Polycentropus (Trichoptera: Psychomyiidae)

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ABSTRACT

Fifteen new species of the genus *Polycentropus* are described and the male genitalia figured. The holotypes are from Belize (1 species), Ecuador (2), El Salvador (1), Guatemala (1), Mexico (6), Panama (3), and Venezuela (1).

Collections made in recent years in Mexico, Central America, and northern South America have revealed an unexpected specific diversity in the genus *Polycentropus*.

Yet, although the genus is often taken at light, it is rarely abundant and most species are encountered very infrequently. Within the area in consideration only three species